

**Notice of Allowability**

Application No.

09/840,462

Examiner

Ayal I. Sharon

Applicant(s)

LI ET AL.

Art Unit

2123

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Amendment filed 11/9/2006.
2. ☒ The allowed claim(s) is/are 1-7.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  5. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08),  
Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_

## **DETAILED ACTION**

### ***Introduction***

1. Claims 1-7 of U.S. Application 09/840,462 are currently pending.

### ***Specification***

2. Applicants' amendment to the specification is entered because it pertains to subject matter that is admitted prior art. The applicants expressly state that "[s]uch characteristics and properties have been already amassed and established in databases known in the art." (See p.2, lines 4-5 of the amendment filed 11/9/2006).
3. Moreover, a listing of the contents of these databases is recited in the originally filed parts of the specification, e.g. "*Such databases relate to human models, patterns of apparel products, human thermo-physiological characteristics, and thermal comfort knowledge.*" (See p.2, lines 10-12 of the amendment filed 11/9/2006).

### ***Declarations***

4. The Katz declarations by Mr. Xiaonan Luo and Mr. Zhongxuan Luo that were submitted on 11/9/2006, and resubmitted on 2/15/2007, comply with the requirements set forth in MPEP § 2132.01 and In re Katz, 687 F.2d 450, 215 USPQ 14 (CCPA 1982). The two declarations expressly indicate

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that the two signors have waived any potential claim to inventorship in the instant application.

5. Mr. Burley Zhong Wang is listed as a co-inventor in the instant application, but is not listed as a co-author of the NOKOBETEF article. Therefore, there is a difference in inventive entity according to MPEP § 2132 (III). However, such a discrepancy is usually resolved in favor of adding inventors to the application. Therefore no action is needed on this issue.

***Examiner's Statement of Reasons for Allowance***

6. Claims 1-7 are allowed.
7. The following is an examiner's statement of reasons for allowance for claims 1-7.
8. The prior art referred to in this Reasons for Allowance is as follows:
- a. Okabe , H. et al. "Three Dimensional Apparel CAD System". Proc. 19<sup>th</sup> Int'l Conf. on Comp. Graphics and Interactive Techniques. 1992. ("**Okabe**").
  - b. U.S. Patent 5,495,568 to Beavin ("**Beavin**").
9. In regards to Claim 1, Okabe teaches the following limitations:
- 1. (Currently Amended) A method of creating thermal functional designs of articles of clothing using a computer and a display monitor controlled by the computer, the method comprising:  
with the aid of an apparel computer aided design function, entering designs of articles of clothing in a pattern database;*

Moreover, Okabe expressly teaches supplying the computer with information from databases relating to physiological characteristics of a

human body and mechanical characteristics of respective textile materials for making the articles of clothing; with the computer and using the pattern database, simulating mechanical functional performance of the articles of clothing; and creating visual images displayed on the monitor visualizing mechanical functional performance of the designs the articles of clothing.

(See Okabe, especially: Figures 1 and 2, and associated text).

However, Okabe does not expressly teach the following limitations:

*supplying the computer with information from databases relating to thermal ... characteristics of a human body and thermal characteristics of respective textile materials for making the articles of clothing;*

*with the computer and using the pattern database, simulating thermal functional performance of the articles of clothing; and*

*creating visual images displayed on the monitor visualizing thermal functional performance of the designs the articles of clothing.*

10. In regards to Claim 1, Beavin teaches the following limitations:

*1. (Currently Amended) A method of creating thermal functional designs of articles of clothing using a computer and a display monitor controlled by the computer, the method comprising.*

*with the aid of an apparel computer aided design function, entering designs of articles of clothing in a pattern database;*

*with the computer and using the pattern database, simulating thermal functional performance of the articles of clothing; and*

*creating visual images displayed on the monitor visualizing thermal functional performance of the designs the articles of clothing.*

Beavin expressly teaches the modeling and display of friction between garments and the human body as "hot spots", and permitting

user input to adjust the garment dimensions. (See Beavin, especially: col.1, line64 to col.2, line 7; and col.4, lines 3-13; and col.5, lines 29-46).

However, Beavin does not expressly teach the following limitations:

*supplying the computer with information from databases relating to thermal ... characteristics of a human body and thermal characteristics of respective textile materials for making the articles of clothing;*

11. Dependent claims 2-5 are allowable because they depend from allowable independent claim 1.

12. In regards to Claim 6, Okabe teaches the following limitations:

*6. (Currently Amended) A method of creating thermal functional designs of articles of clothing, the method comprising:  
extracting a pattern for an article of clothing from a pattern database ...  
simulating fitting on the human body of the article of clothing made from the textile selected on the human body ...*

Moreover, Okabe expressly teaches supplying the computer with information from databases relating to physiological characteristics of a human body and mechanical characteristics of respective textile materials for making the articles of clothing; with the computer and using the pattern database, simulating mechanical functional performance of the articles of clothing; and creating visual images displayed on the monitor visualizing mechanical functional performance of the designs the articles of clothing. (See Okabe, especially: Figures 1 and 2, and associated text). However, Okabe does not expressly teach the following limitations:

*selecting thermal-physiological characteristics of the human body from a body database;*

*selecting thermal characteristics of a textile material from a textile database; and ...  
and, using the thermal-physiological characteristics selected, displaying a visual image of thermal comfort of a human wearing the article of clothing made from the textile, visualizing thermal functional performance of the article of clothing.*

13. In regards to Claim 6, Okabe teaches the following limitations:

*6. (Currently Amended) A method of creating thermal functional designs of articles of clothing, the method comprising:  
extracting a pattern for an article of clothing from a pattern database ...  
simulating fitting on the human body of the article of clothing made from the textile selected on the human body ...  
displaying a visual image of thermal comfort of a human wearing the article of clothing made from the textile, visualizing thermal functional performance of the article of clothing.*

Beavin expressly teaches the modeling and display of friction between garments and the human body as "hot spots", and permitting user input to adjust the garment dimensions. (See Beavin, especially: col.1, line64 to col.2, line 7; and col.4, lines 3-13; and col.5, lines 29-46).

However, Beavin does not expressly teach the following limitations:

*selecting thermal-physiological characteristics of the human body from a body database;  
selecting thermal characteristics of a textile material from a textile database; and ...  
and, using the thermal-physiological characteristics selected, displaying a visual image of thermal comfort of a human wearing the article of clothing made from the textile, visualizing thermal functional performance of the article of clothing.*

14. Dependent claim 7 is allowable because it depends from allowable independent claim 6.

15. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays,

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should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

***Correspondence Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ayal I. Sharon whose telephone number is (571) 272-3714. The examiner can normally be reached on Monday through Thursday, and the first Friday of a biweek, 8:30 am – 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Rodriguez can be reached at (571) 272-3753.

Any response to this office action should be faxed to (571) 273-8300,

or mailed to:

USPTO  
P.O. Box 1450  
Alexandria, VA 22313-1450

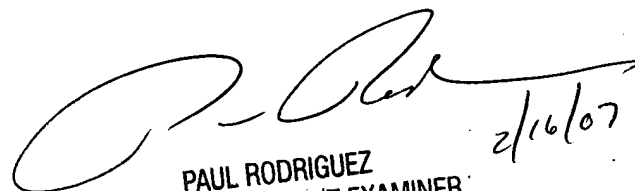
or hand carried to:

USPTO  
Customer Service Window  
Randolph Building  
401 Dulany Street  
Alexandria, VA 22314

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Tech Center 2100 Receptionist, whose telephone number is (571) 272-2100.

Ayal I. Sharon  
Art Unit 2123  
February 15, 2007

  
2/16/07  
PAUL RODRIGUEZ  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2100